BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

)

)

)

Order Instituting Rulemaking to Promote Policy and Program Coordination and Integration in Electric Utility Resource Planning

R.04-04-003

REPLY COMMENTS OF THE CALIFORNIA INDEPENDENT SYSTEM OPERATOR TO ADMININSTRATIVE LAW JUDGE'S RULING REQUESTING ADDITIONAL COMMENTS ON RESOURCE ADEQUACY ISSUES

Charles F. Robinson, General Counsel Anthony J. Ivancovich, Senior Regulatory Counsel Grant A. Rosenblum, Regulatory Counsel California Independent System Operator 151 Blue Ravine Road Folsom, CA 95630 Telephone: 916-351-4400 Facsimile: 916-351-2350

Attorneys for the **California Independent System Operator**

Dated: July 29, 2004

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

)

)

Order Instituting Rulemaking to Promote Policy and Program Coordination and Integration in Electric Utility Resource Planning

R.04-04-003

REPLY COMMENTS OF THE CALIFORNIA INDEPENDENT SYSTEM OPERATOR TO ADMININSTRATIVE LAW JUDGE'S RULING REQUESTING ADDITIONAL COMMENTS ON RESOURCE ADEQUACY ISSUES

The California Independent System Operator ("CAISO") respectfully submits these reply

comments in response to the Administrative Law Judge's Ruling Requesting Additional

Comments on Resource Adequacy Issues mailed on July 8, 2004 ("ALJ Ruling") in this

proceeding.

I. INTRODUCTION

The ALJ Ruling requested comments on the following resource adequacy issues:

- (1) Whether to accelerate the phase-in of the full planning reserve margin from January 1, 2008 to June 1, 2006;
- (2) How the year-round 15-17% reserve requirement and the seasonal 90% forward contracting requirement interact, including (1) when to fill-in the remaining 10% for reserves procured for the summer months, and (2) when load serving entities ("LSEs") must demonstrate the full 15-17% in the non-summer months. In particular, comments should address whether LSEs should be required to procure and demonstrate the remaining 10% of

their summer resource adequacy requirement and their full non-summer reserve margin one month ahead; and

(3) Whether future Commission approved contracts intended to comply with resource adequacy requirements should include terms and conditions requiring that resources secured to meet the LSE's resource adequacy requirement be available to LSEs to schedule in the day-ahead time frame.

In addition to the CAISO, eight other parties filed initial comments on the aforementioned issues.¹ In the instant Reply Comments, the CAISO responds to other parties' initial comments regarding the issues raised in the ALJ Ruling. The CAISO notes that its Reply Comments will not address issues that were not expressly raised in the ALJ Ruling (*e.g.*, the "counting" of liquidated damages contracts for purposes of satisfying the resource adequacy obligation and the merits of a capacity tagging proposal). These issues are addressed in the CAISO's comments on the resource adequacy Workshop Report and therefore are not repeated herein.

The CAISO submits that none of the parties' comments pose a legitimate barrier to implementing the 15-17% planning reserve margin by June 1, 2006. Further, the opposition to a requirement that the full non-summer planning reserve margin, as well as the remaining 10% of the summer reserve margin, be procured one-month ahead is limited, and the objections to such a requirement are without merit. Finally, no party has raised valid arguments in opposition to a

¹ Initial comments were filed by the following parties: Alliance for Retail Energy Markets ("AREM"); Western Power Trading Forum ("WPTF"); Silicon Valley Manufacturing Group ("SVMG"); Pacific Gas & Electric Company ("PG&E"); Southern California Edison Company ("SCE"); Office of Ratepayer Advocates ("ORA"); Independent Energy Producers Association ("IEP"); San Diego Gas & Electric Company ("SDG&E"); and The Utility Reform Network ("TURN").

requirement that resources procured to meet a load serving entity's ("LSE") resource adequacy obligation must be available to the LSE and the CAISO in the day-ahead time frame.

II. WAITING UNTIL 2008 TO FULLY IMPLEMENT THE RESERVE REQUIREMENT IS UNWARRANTED

In its Response to the ALJ Ruling filed on July 22, 2004 ("Response"), the CAISO argued that all LSEs should be required to acquire a reserve margin of no less than 10-12% in 2005 and fully satisfy the planning reserve margin by June 2006, subject to certain protections against market power for local capacity requirements. Three factors supported the CAISO's conclusion. First, aggregate supply conditions currently favor LSE procurement, which will allow acceleration of the phase-in schedule by dampening the threat of the exercise of market power by suppliers. Second, adequate prophylactic steps could be taken to protect against the exercise of market power by suppliers. Third, a full resource adequacy obligation should precede implementation of the CAISO's final phase of its market redesign. ORA, IEP and WPTF support an accelerated phase-in of the reserve requirement. ORA Comments, Attachment at 1; IEP Comments at 1; WPTF Comments at 2. SDG&E does not oppose an accelerated phase-in. SDG&E Comments at 2.

TURN, SCE and AREM oppose an accelerated phase-in of the full reserve requirement. TURN alleges that an accelerated phase-in will increase costs. TURN Comments at 5-6. TURN also argues that an accelerated phase-in is unnecessary because resources will be adequate for 2004-2008.² *Id.* at 7-8. TURN and SCE state that an accelerated phase-in will raise market

² In support of its position, TURN states that the CAISO experienced new peak levels last weak and still had three times the amount of reserves needed to meet a 7% reserve operating reserve margin. Accordingly, TURN argues that the Commission should ignore the "sky-is falling" arguments. TURN Comments at 2-4.

power concerns.³ TURN Comments at 6; SCE Comments at 2. Likewise, SCE claims that an accelerated phase-in will not increase reliability because no new capacity will be added as a result of such acceleration. SCE Comments at 4. On the other hand, PG&E contends that an accelerated phase-in may increase short-term reliability, but will not result in new construction.⁴ PG&E Comments at 2. SCE and AREM argue that an accelerated phase-in is inappropriate because numerous resource adequacy issues are unresolved at this time. SCE Comments at 3-4; AREM Comments at 3.

The CAISO submits that waiting until 2008 to fully implement the planning reserve margin could subject California ratepayers to increased costs and, potentially, curtailments if the resource base deteriorates, there is a prolonged period of low hydro conditions, or there is a significant increase in peak demand (in California and/or the West). The parties seeking to defer implementation of the reserve requirement acknowledge that there is a surplus of cheap energy today. Thus, conditions are favorable for negotiating long-term capacity deals now. Conditions may not be so favorable in the future, forcing LSEs to meet their resource adequacy obligation in times where tighter supply increases prices.

Claims that competition between the utilities for capacity will drive up costs significantly are mere speculation and lack a logical basis given the acknowledged current supply conditions. Given that there presently is a supply surplus, and the utilities only need to procure a limited amount of additional capacity to meet the reserve requirement (because the CDWR contracts cover a significant percentage of the utilities' net short), it is not certain that any "bidding war"

³ TURN states that if the Commission accelerates the phase-in, it will need to adopt some mechanism to mitigate market power (*e.g.*, set a "circuit breaker" for high prices). TURN Comments at 6.

⁴ PG&E states the utilities will need additional tools to comply with any accelerated phase-in including the authority to sign contracts beyond the third quarter of 2005 with delivery in years other than 2004. PG&E Comments at 2. PG&E also stresses that cost recovery issues will need to be addressed. *Id*.

will result. In any event, as the CAISO indicated in its Response, if there is evidence that suppliers are exercising market power, the utilities can always come back to the Commission and request that the effective date of the reserve requirement be pushed back. Alternatively, if there is a demonstration that suppliers are exercising market power, the CAISO could step in and execute RMR or RMR-like contracts, whichever is applicable under the circumstances, for a transitional period in order to meet locational capacity needs.

Further, parties fail to recognize that capacity is cheap compared to energy. As California learned during the energy crisis, high spot market prices are not cheap. When capacity is not locked-in in advance, LSEs must rely on volatile spot market prices to serve load, and that approach can be extremely expensive.

The claims that existing supply conditions obviate the need to "lock up" capacity now are shortsighted. Although there presently remains some excess capacity under optimal conditions (scenario of base demand and favorable resource availability), it should not be assumed that there will be excess capacity available to serve California load between 2006 and 2008. The CAISO believes the near-term potential for the "mothballing" and/or retirement of 3,000-4,000MW of generating units is very real and cannot be ignored.⁵ The CAISO's Five-Year Assessment shows convergence in the supply-demand balance between 2004 and 2008, and does not reflect the likelihood that nearly 4,000 MW of capacity could retire over the next several years. The CAISO's Five-Year Assessment also does not reflect our first evidence of this trend, the sudden mothballing just this year, of an additional 825 MW of capacity. Under these

⁵ The CAISO has received formal notification that some large older generators will retire prior to 2005 in the event they are not selected in the procurement process. Without a contract, owners of aging generators are not compelled to invest in needed maintenance based on hopes to run in the spot market. TURN argues that even if aging generators retire or mothball now they will likely return to service when needed. It can take from one-to-six months for a mothballed generator to re-commission. As such mothballed units cannot be considered as quasiavailable to meet adverse conditions.

circumstances, the arguments that accelerated implementation of the full planning reserve margin will not result in any new capacity ignore the very real risk that existing resources will no longer be available to serve California load in future years. This could result in a capacity shortage in the near future if mechanisms are not in place to "lock-up" such capacity.

Parties also ignore the fact that, even if there is a capacity surplus today, that capacity may not be available to serve California load if it is not "locked-up" now. Low hydro conditions in upcoming years could turn a capacity surplus into a capacity deficit, and problems could arise if the remaining capacity is not "locked-up" to serve load in California. Further, load is growing at a rapid pace throughout the West, while the number of potential resource additions planned in California have declined. Many new generation projects that were in progress in 2003 are either on-hold or have been outright cancelled. Further, despite the currently favorable conditions, reserve margins in the West are the lowest in the nation, and the areas outside of California are experiencing significant load growth. California Independent System Operator Corporation, 100 FERC ¶ 61,062 at P 2, 32 (2002). Increasing load without a corresponding increase in new generation will put a strain on existing resources. Moreover, generation development in California has slowed considerably. Only 118 MW of new generation is expected by the end of 2004, compared to 4,830 MW built in 2003, 2,878 MW built in 2002 and 2,513 MW built in 2001. Load growth in other states will compete with California load for a finite set of supplies in upcoming years. Under these circumstances, there is no guarantee that existing supplies will be available when California needs them, especially if there is a region-wide heat wave and/or a low hydro year. California needs to act now to "lock-up" such supplies by accelerating the full phase in of the planning reserve margin by summer 2006.

The CAISO recognizes that accelerating the phase-in date for the full planning reserve margin will not result in incremental resources being constructed. However, that is not the objective of an accelerated phase-in. The objective of an accelerated phase-in is to increase reliability, reduce the risk of curtailments, and limit exposure to volatile spot market prices. These goals can be accomplished by ensuring that available resources are committed to serving California loads.

TURN "hones in" on the fact that the CAISO experienced record peaks last week, and still had significant additional resources in reserve. TURN Comments at 3. TURN states that any discussion of an accelerated phase-in of the full planning reserve margin must be considered with this in mind.

The CAISO submits that the existence of some excess capacity at this point in time is all the more reason for LSEs to begin "locking-up" that capacity now, especially given the specter of continued region-wide load growth and the potential for the mothballing and retirement of existing generation. With an excess of capacity, prices should be cheaper now, and it is less likely that suppliers will subject LSEs to the exercise of market power. The events of last week also demonstrate that loads in California are growing at a much faster rate than was previously anticipated. The July 21, 2004 peak was 3.9% higher than the peak demand for July 2003, with both peaks occurring under similar, average temperatures (temperatures slightly less than a 1-in-2 year pattern). That fact, and the fact that significant load growth is being experienced throughout the West, creates significant uncertainty for the future availability of resources to serve California. Stated differently, why is it prudent for LSEs to face unnecessary risk in the future when they can lock-up capacity at reasonable prices today.

The CAISO also notes TURN's reference to the significant additional resources that were in reserve during the week of July 19-23 is misleading. However, this assertion is misleading because the reserves shown cannot all be used to serve additional load. Included in those reserves were approximately 2,800 MW of Operating Reserves that the CAISO must carry to be compliant with WECC Minimum Operating Reliability Criteria. In addition, during the peak hours, the CAISO was importing from outside the Control Area on average in excess of 5,600 MW.⁶ California cannot count on that level of imports being available when temperatures are hot in neighboring states and/or hydro reserves are low.⁷

Certain parties also claim that an accelerated phase-in is not feasible given that the Commission has not finally decided all of the issues in the proceeding. This fact should not delay implementation of the full planning reserve margin. The Commission is scheduled to issue a final resource adequacy decision (including a decision on the Workshop issues) in September. That should provide sufficient time for LSEs to line up adequate supplies by the summer of 2006. As the CAISO indicated in its Response, LSEs should not be required to demonstrate compliance with the year-ahead showing requirement by April 2005 for May 2006. The first year-ahead showing should be scheduled for April 2006 for the 2007 summer season. This

⁶ In its 2004 Summer Assessment (p. 30), the CAISO's base case scenario for imports in July 2004 contemplated imports of 5,862 MW.

⁷ TURN's assumption that there were significant additional resources in reserve on July 21 was based on an assumption that the CAISO reached its summer peak on July 21 and that the *preliminary resource* data published on the CAISO webpage captures actual conditions. This assumption is erroneous for two reasons. First, recent trends demonstrate a slightly higher growth rate in peak demand than originally assumed in the 2004 Summer Assessment base forecast and approach the forecasted high peak demand. Second, he preliminary available resource capacity does not account for transmission constraints, and does not include other unreported outages for ambient de-rates (including capacity not available due to low hydro conditions). The actual resources available when considering data error, capacity limitation due to transmission constraints, and ambient de-rates approximately 600 MW higher than forecasted for the summer peak, mostly due to lower than average forced outages. Moreover, the Participating Thermal Outages on July 21 was 1,532 MW compared to the forecast of 2,500 MW. The maximum Participating Thermal Outages during peak hours for the 2004 summer season on June 1st was 4,296 MW. These types of unplanned outages can occur at anytime of any day.

timeline (in conjunction with the CAISO's proposal for a monthly forward contracting obligation for 100% of the reserve requirement) would give LSEs until April 1, 2006 to procure 100% of their capacity requirements for May 2006. That should provide LSEs with sufficient time to procure their capacity requirements.

The CAISO acknowledges PG&E's point that, if the Commission accelerates the phase-n date for the full planning reserve margin, LSEs will need a Commission decision revising prior Commission orders to allow them to enter into the necessary supply arrangements. The CAISO also concurs with PG&E that the Commission should allow LSEs the opportunity to recover all prudently incurred costs in complying with an accelerated phase-in.

III. A REQUIREMENT THAT LSES PROCURE 100% OF THEIR SUMMER AND NON-SUMMER CAPACITY REQUIREMENTS BY THE MONTH AHEAD IS APPROPRIATE

In its Response, the CAISO strongly advocates a requirement that LSEs be required to procure the remaining 10% of their summer resource adequacy requirement, and their full non-summer reserve margin, one month ahead. Such a requirement precludes LSEs from placing reliable and reasonably priced service to load at risk by waiting until the last minute to procure an undue quantity of resources needed to serve load.

TURN agrees with the CAISO that LSEs should be required to procure 100% of their summer and non-summer reserves a month ahead. TURN Comments at 1. ORA states that LSEs should be required to demonstrate 100% resource adequacy for the summer months 30 days ahead of time. ORA Comments, Attachment at 3. However, ORA believes that the Commission should proceed with a summer-only requirement, and then determine whether specific requirements are needed for non-summer months. *Id.* ORA submits that any non-summer requirement should be less stringent than the summer requirement (*e.g.*, there could be a

monthly or quarterly demonstration for non-summer months made in the end-of year filing for the summer months). *Id.* at 3-4. San Diego agrees that the additional 10 percent summer requirement should be met in the month ahead, and the 15-17% showing for non-summer months should be made concurrently with the showing for the summer months for efficiency purposes. SDG&E Comments at 4. SCE and AREM argue that a requirement that LSEs forward contract 100% of their reserve requirements a month in advance will unnecessarily increase costs without providing any reliability benefits. SCE Comments at 7-9; AREM Comments at 7-11.⁸ SCE claims that anything beyond the 90% requirement is unnecessary because supplies will be available in the short-term markets anyway, and units are unlikely to be mothballed in the summer months. SCE Comments at 8. PG&E suggests that LSEs should meet 100% of their reserve needs one day before the operational month. PG&E Comments at 5-6.

The resistance to an obligation on the part of LSEs to line up sufficient capacity a monthahead is unwarranted. Ultimately, LSEs must procure sufficient resources to meet the needs of their customers be it in forward markets or in the CAISO's markets. The alternative to monthahead procurement is undue reliance on spot market purchases with the hope that sufficient supplies will be available. When purchases are made at the last minute, the range of options available to meet unforeseen circumstances is substantially more circumscribed than if purchases are made ahead of time.

⁸ AREM claims that the Commission's Interim Order, D.04-01-050, did not establish a 15-17% reserve requirement on a year-round basis. AREM Comments at 8. AREM states that, to the extent LSEs are required to make a month-ahead showing, such showing should be limited to the summer months. The CAISO does not believe that there is any basis for AREM's belief that the Commission did not establish a year-round reserve requirement. The order directed "LSE's to meet this 15-17% reserve requirement by no later than January 1, 2008." Interim Order, mimeo at 11. If the reserve requirement was a summer-only requirement there would be little sense in making the requirement effective in January. Also, the Commission established "a requirement that utilities forward contract 90% of their summer…peaking needs… a year in advance." *Id.* If the reserve requirement was a summeronly requirement, again there would have been no need to specify a separate summer forward contracting requirement.

PG&E, SCE and AREM have not provided a credible explanation as to why it is better to risk last minute purchases of needed capacity rather than to proceed with an orderly procurement of needed resources in advance of the day-ahead and real-time time frames. The requirement that LSEs procure their summer and non-summer capacity requirements a month in advance provides the utilities with a large degree of flexibility to firm up their capacity commitments when market conditions are optimal, while ensuring that surplus supplies, to the extent they exist, are committed to California and are not diverted elsewhere or available only at very high prices (due to adverse conditions such as a West-wide heat wave). In that regard, a month-ahead requirement would not unduly limit the ability of utilities to use short-term capacity purchases. Further, as the CAISO stressed in its Response, a month-ahead requirement does not in any way preclude LSEs from procuring energy that is available from other resources after the month ahead and is cheaper than the energy the utilities can purchase under their capacity contracts. In that regard, the month-ahead obligation is a capacity obligation only; LSEs are not being required to procure 100% of their expected energy needs a month in advance. As the CAISO has emphasized on numerous occasions, capacity is cheap (compared to energy) and the existence of a month-ahead obligation will place downward pressures on prices in the short-term markets.

On the other hand, a month-ahead requirement precludes the LSEs from placing reliable, cost-effective service to load at risk by waiting until the last minute to procure the resources needed to serve their customers' load. Moreover, the month-ahead requirement would ensure that, if there were problems looming, the Commission, the CAISO, and LSEs would have a month to attempt to line up additional supplies or encourage conservation rather than addressing a potential short fall at the last minute in a crisis mode.

 $14313 \\ 426660.1 \\ : 426660$

SCE contends that a requirement that 100% of capacity requirements be procured by the month-ahead will unnecessarily increase costs without enhancing reliability in any material fashion. SCE Comments at 7-8. SCE's position is based on the following assumptions: (1) existing supplies are going to be available on a short term-basis anyway and are unlikely to be mothballed during the summer peak season; (2) new supplies take years to add; and (3) existing suppliers will not make commitments outside California and therefore will be available to meet California needs.

These arguments miss the point. Even assuming, *arguendo*, that supplies are available, that does not ensure that such supplies will be made available to California when California needs them. Only if LSEs procure necessary capacity in advance will any available capacity be guaranteed to serve California load and not potentially chase higher prices outside the State. If capacity is not locked-in in advance, LSEs will be forced to rely on volatile spot market prices to serve load, and that approach can be extremely risky and expensive.

SCE's argument regarding the mothballing of generating units also is without merit. Generating units are not casually mothballed during non-summer months and then brought back into service every summer. Units are mothballed because the unit is not under a bilateral contract and the unit owner does not perceive an opportunity to recover fixed costs by participating in the market. Indeed, there is general consensus among suppliers and generation developers that fixed cost recovery is unlikely to be realized through reliance on the California spot markets.

The arguments that a monthly obligation is unnecessary for non-summer months seem to stem from the mistaken assumption that resource adequacy is not as critical during the nonsummer months. The CAISO believes that the forward contracting obligation should apply to the non-summer months as well as the summer months. While certain parties may assume that

adequate resources will be available for the non-peak months of the year, there is no assurance of this outcome because resources would not be locked up by California LSEs. Ignoring non-peak months could unnecessarily expose consumers to high spot market prices and potential curtailments. Blackouts can occur, and have occurred, during the off-peak winter months. Further, price spikes regularly can occur – and have occurred --during the shoulder months, especially when there are "heat waves," low hydro levels, and/or significant quantities of capacity offline for scheduled outages. Further, there has been no showing that extending the forward contracting obligation to the non-summer months will unduly burden LSEs, especially given that LSEs are already making demonstrations of resource adequacy for the five summer months.

IV. RESOURCE ADEQUACY CONTRACTS SHOULD INCLUDE A REQUIREMENT THAT RESOURCES BE MADE AVAILABLE TO LSES AND THE CAISO IN THE DAY-AHEAD TIME FRAME

The CAISO stressed in its Response that a well-designed resource adequacy requirement must include an obligation that LSE-procured capacity resources be available to the CAISO through its day-ahead and real-time markets and scheduling processes when such resources are not otherwise scheduled in the day-ahead market. Therefore, the Commission should require that contracts between LSEs and suppliers include a provision making resources available to LSEs in a day-ahead timeframe and to the CAISO in the event such resources are not scheduled by LSEs in the day-ahead. Thus, to the extent resources are not scheduled by LSEs to meet their loads, but become necessary in the day-ahead or real-time periods to balance resources with load, the CAISO could use the resources for such purpose. CAISO Response at 19. Unless the Commission explicitly addresses the issue of coordination and an efficient hand-off of resources to the CAISO, the value of the Commission's resource adequacy obligation will not be fully realized.

TURN, SDG&E and PG&E all agree with the CAISO that resources should be made available to LSEs in the day-ahead time frame and to the CAISO if they are not scheduled by LSEs. TURN Comments at 13; SDG&E Comments at 5; PG&E Comments at 6. WPTF states that a day-ahead offer obligation would be reasonable with adequate compensation via a capacity payment, as well as the ability to include opportunity costs in energy offers. WPTF Comments at 14. WPTF supports a unit commitment process and believes that capacity procured to meet resource adequacy requirements should seamlessly integrate with the transmission operator's markets. Id. at 13. ORA and SCE recommend that the Commission not decide the issue at this time. ORA states that a decision is unnecessary at this time because the ultimate form of the CAISO's market design is currently unclear and, as such, ensuring integration remains uncertain. ORA Comments, Attachment at 4. SCE states that the onus should be on the CAISO to determine whether the resource adequacy requirements placed on LSEs are sufficient to meet the CAISO's operational needs. SCE Comments at 10-11. SCE argues that the CAISO should provide this analysis after the Commission issues its final rules on resource adequacy. AREM contends that a day-ahead must offer obligation should be voluntary. AREM Comments at 12. As indicated in the CAISO's Response, a day-ahead must offer-type obligation is necessary for the following reasons: (1) it will ensure that LSE resources are made available in a manner that is consistent with the CAISO's scheduling and commitment requirements; (2) it will enhance the CAISO's ability to operate the grid reliably by moving unit commitment and dispatch out of real-time and into the day-ahead timeframe; (3) it will ensure that resources procured by LSEs are utilized by the CAISO to meet energy needs and that overall costs are not increased because

the CAISO was forced to commit resources that are less efficient than those procured by the LSEs; and (4) it is necessary to ensure that units are properly mitigated for system and local market power in the market runs that the CAISO conducts.

Contrary to SCE's and ORA's suggestion, there is no reason for the Commission to delay ruling on this issue. In the first instance, any resources procured by LSE's must be scheduled or made available to the CAISO regardless of the market design. Otherwise, the very purpose of resource adequacy, *i.e.*, to procure sufficient capacity, would not translate into reliable service to load. Moreover, ORA's claim that the CAISO's market design is uncertain lacks merit. FERC has already approved the CAISO's proposed market redesign on a conceptual basis. *California Independent System Operator Corporation*, 105 FERC ¶ 61,140 (2003) ("October 28 Order"). In a June 17, 2004 Order, FERC provided additional guidance regarding the details of seven specific elements of the market redesign, including the CAISO's residual unit commitment ("RUC") proposal. *California Independent System Operator Corporation*, 107 FERC ¶ 61,274 (2004) ("June 17 Order"). In its June 17, 2004 Order, FERC also ordered the CAISO to file tariff language on the seven market design elements by the end of 2004 and established procedures that will lead to resolution of a couple of distinct market design issues

Thus, the CAISO's market redesign is sufficiently "baked" for the Commission to rule on the merits of a day-ahead must offer obligation. The details of the RUC proposal have been approved by FERC. Given that a day-ahead must offer obligation is necessary in order for RUC to function effectively and efficiently,⁹ it is imperative that the Commission impose a day-ahead

⁹ Absent a requirement to make resources available to the CAISO for possible commitment through the RUC mechanism, the RUC procedure may not have a sufficient pool of resources, and the CAISO may not be able to commit sufficient resources to serve the next-day's forecasted load. Today, the CAISO satisfies this availability requirement through the FERC-established must-offer obligation, in combination with the must-offer waiver process (today's equivalent of the RUC process). Under a Commission-approved requirement that contracts between LSEs and suppliers include a provision for making capacity procured under the contract available to the

must offer requirement for resource adequacy contracts. The CAISO has previously identified the need for a day-ahead must offer obligation in several filings at FERC regarding the proposed market redesign.¹⁰ There is no need for the CAISO to go back and re-evaluate this issue as certain parties suggest. The CAISO has fully evaluated its needs in connection with the new market design and has concluded that it needs a day-ahead must offer obligation in order for the market design to function effectively and efficiently and for the CAISO to operate the grid reliably. That is why the CAISO included a day-ahead must offer obligation in its July 22, 2003 market redesign filing at FERC and has continued to stress the need for such a mechanism as part of the new market design.

Although FERC rejected the CAISO's day-ahead must offer proposal, it did so on the grounds that the CAISO was not proposing to provide a capacity payment to suppliers and no resource adequacy requirement existed as a substitute. However, FERC recognized that a Commission-approved, day-ahead resource adequacy product with a capacity payment would satisfy FERC's and the CAISO's objectives. June 17 Order at P 26. Previously, FERC has recognized that "absent a resource adequacy requirement, generators should not be required to bid into the day-ahead market." October 28 Order at P 227; *see also Midwest Independent System Operator Inc.*, 102 FERC ¶ 61,280 at P 96 (2002). Thus, FERC has recognized that a day-ahead must-offer obligation is best achieved via a resource adequacy requirement.

CAISO, capacity that is not included in a forward schedule by the LSE would be required to bid into the CAISO day-ahead integrated forward market ("IFM") and would be available for commitment or dispatch by the CAISO as part of the RUC

procedure. However, absent a requirement that the CAISO be permitted to utilize the capacity procured by LSEs, there will not be any way to ensure that sufficient resources will participate in RUC, thereby potentially rendering the RUC procedure ineffective and exposing consumers to potential real-time supply shortages or high prices.

¹⁰ See Comments of the California Independent System Operator Corporation, Docket No. ER02-1656 (May 11, 2004); Amended Comprehensive Market Design Proposal, Docket No. ER02-1656 (July 22, 2003).

A contractual day-ahead must offer obligation is consistent with the general objectives and the design of the CAISO's market redesign and will provide important operational and market efficiency benefits. The CAISO's inability to consider a full complement of LSE-procured capacity resources in the day-ahead market and in the RUC process could introduce unavoidable market flaws, which could lead to (1) inefficient/inaccurate optimization of unit commitment and scheduling to manage congestion, and (2) insufficient protection from locational and system market power. A day-ahead must offer obligation will provide the CAISO with the means to both *reliably* and *efficiently* commit the resources necessary to serve the next day's load and meet local reliability needs when they are not scheduled by LSEs. Given FERC's actions, such resources can be made available to the CAISO on a day-ahead basis only pursuant to the rules and obligations established under a resource adequacy requirement.

ORA appears to express some support for a flexible offer obligation, whereby a supplier would be obligated to make its capacity available in either the day-ahead or the real-time markets. ORA's support for a flexible offer obligation seems to stem from its belief that the Commission supported such a mechanism (rather than a day-ahead must offer obligation). To the contrary, the Commission supported the CAISO's proposal for a day-ahead must offer obligation. The CAISO views the flexible offer obligation as a less-than-perfect "back-up" in the event FERC failed to approve a day-ahead must offer obligation.

In filings at FERC, the CAISO identified several problems with a flexible offer obligation. See *Comments of the California Independent System Operator Corporation Regarding Technical Conference*, Docket No. ER02-1656, pages 16-32 (May 11, 2004). Unlike a day-ahead must offer obligation, a flexible offer obligation could lead to (1) inefficient unit commitment, (2) deficient and/or inaccurate market power mitigation, and (3) the potential for

over-generation and excess on-line capacity in real-time. In particular, a flexible offer option would not adequately address the issues identified on pages 19-21 of the CAISO's Response. That is why the CAISO proposed a day-ahead must offer obligation to FERC and not a flexible offer obligation. Further, in order for the market design to work as planned, and for all of the benefits associated with a day-ahead must offer obligation to be achieved, it is necessary that the obligation be mandatory not voluntary. The problems identified in the CAISO's Response and herein can arise if the obligation is not mandatory.

V. CONCLUSION

For the reasons set forth herein and in the CAISO's Response, the CAISO respectfully requests that the Commission include in its final order on resource adequacy issues, the following:

- 1. Full phase-in of the planning reserve margin by June 1, 2006, although the initial yearly reporting requirement may be deferred until April 1, 2006 for the 2007 summer peak season.
- A requirement that LSEs must to procure and demonstrate the remaining 10% of their summer resource adequacy requirement and their full nonsummer reserve margin one month ahead.

A requirement specifying that contracts will be deemed qualifying capacity for resource adequacy purposes only if such contracts include an express obligation that the capacity be made available to the CAISO in the day-ahead time frame either through a submitted schedule or through participation in the CAISO's IFM and RUC processes. Respectfully Submitted:

By: Anthony J. Ivancovich

Attorney for California Independent System Operator

Charles F. Robinson, General Counsel Anthony J. Ivancovich, Senior Regulatory Counsel Grant A. Rosenblum, Regulatory Counsel California Independent System Operator 151 Blue Ravine Road Folsom, CA 95630 Telephone: 916-351-4400 Facsimile: 916-351-2350

Attorneys for California Independent System Operator

July 29, 2004

CERTIFICATE OF SERVICE

I hereby certify that I have served, by electronic and United States mail, a copy of the foregoing Reply Comments of The California Independent System Operator Corporation on Administrative Law Judge's Ruling Requesting Additional Comments on Resource Adequacy Issues to each party in Docket No. R.04-04-003.

Executed on July 29, 2004, at Folsom, California.

N.W.lfm Charity N. Wilson

An Employee of the California (Independent System Operator KEITH MCCREA SUTHERLAND, ASBILL & BRENNAN 1275 PENNSYLVANIA AVENUE, NW WASHINGTON, DC 20004-2415

JAMES ROSS RCS CONSULTING, INC. 500 CHESTERFIELD CENTER, SUITE 320 CHESTERFIELD, MO 63017

HOWARD CHOY COUNTY OF LOS ANGELES 1100 NORTH EASTERN AVENUE INTERNAL SERVICES DEPARTMENT LOS ANGELES, CA 90063

GREGORY S.G. KLATT LAW OFFICES OF DANIEL W. DOUGLASS 411 E. HUNTINGTON DRIVE, SUITE 107-356 ARCADIA, CA 91006

BETH A. FOX SOUTHERN CALIFORNIA EDISON COMPANY 2244 WALNUT GROVE AVENUE ROSEMEAD, CA 91770

ALVIN S. PAK SEMPRA ENERGY GLOBAL ENTERPRISES 101 ASH STREET, HQ15 SAN DIEGO, CA 92101-3017

KEITH E. FULLER ITRON, INC. 11236 EL CAMINO REAL SAN DEIGO, CA 92130-2650

MARC D. JOSEPH ADAMS BROADWELL JOSEPH & CARDOZO 651 GATEWAY BOULEVARD, SUITE 900 SOUTH SAN FRANCISCO, CA 94080

OSA ARMI SHUTE MIHALY & WEINBERGER LLP 396 HAYES STREET SAN FRANCISCO, CA 94102

JODY S. LONDON GRUENEICH RESOURCE ADVOCATES 582 MARKET STREET, SUITE 1020 SAN FRANCISCO, CA 94104 ROGER A. BERLINER MANATT, PHELPS & PHILLIPS, LLP 1501 M STREET, N.W., SUITE 700 WASHINGTON, DC 20005-1702

LISA URICK SAN DIEGO GAS & ELECTRIC COMPANY 555 W. FIFTH STREET, SUITE 1400 LOS ANGELES, CA 90013-1011

DAVID L. HUARD MANATT, PHELPS & PHILLIPS, LLP 11355 WEST OLYMPIC BOULEVARD LOS ANGELES, CA 90064

KEVIN DUGGAN CAPSTONE TURBINE CORPORATION 21211 NORDHOFF STREET CHATSWORTH, CA 91311

ELIZABETH HULL CITY OF CHULA VISTA 276 FOURTH AVENUE CHULA VISTA, CA 91910

JOSEPH R. KLOBERDANZ SAN DIEGO GAS & ELECTRIC 8330 CENTURY PARK COURT SAN DIEGO, CA 92123-1530

DAVID OLSEN 3804 PACIFIC COAST HIGHWAY VENTURA, CA 93001

JOSEPH P. COMO CITY AND COUNTY OF SAN FRANCISCO 1 DR. CARLTON B. GOODLETT PLACE, RM. 234 CITY HALL, ROOM 234 SAN FRANCISCO, CA 94102

DIAN M. GRUENEICH GRUENEICH RESOURCE ADVOCATES 582 MARKET STREET, SUITE 1020 SAN FRANCISCO, CA 94104

KAREN TERRANOVA ALCANTAR & KAHL, LLP 120 MONTGOMERY STREET, STE 2200 SAN FRANCISCO, CA 94104 GARSON KNAPP FPL ENERGY, LLC 770 UNIVERSE BLVD. JUNO BEACH, FL 33408

JAMES OZENNE SAN DIEGO GAS & ELECTRIC COMPANY 555 W. FIFTH ST., STE. 1400 LOS ANGELES, CA 90013-1034

RANDALL W. KEEN MANATT PHELPS & PHILLIPS, LLP 11355 WEST OLYMPIC BLVD. LOS ANGELES, CA 90064

DANIEL W. DOUGLASS LAW OFFICES OF DANIEL W. DOUGLASS 6303 OWENSMOUTH AVE., TENTH FLOOR WOODLAND HILLS, CA 91367-2262

FREDERICK M. ORTLIEB CITY OF SAN DIEGO - OFFICE OF CITY ATTOR 1200 THIRD AVENUE, 11TH FLOOR SAN DIEGO, CA 92101

JOHN W. LESLIE LUCE, FORWARD, HAMILTON & SCRIPPS, LLP 11988 EL CAMINO REAL, SUITE 200 SAN DIEGO, CA 92130

CHRIS KING CALIF. CONSUMER EMPOWERMENT ALLIANCE ONE TWIN DOLPHIN DRIVE REDWOOD CITY, CA 94065

MICHEL PETER FLORIO THE UTILITY REFORM NETWORK (TURN) 711 VAN NESS AVENUE, SUITE 350 SAN FRANCISCO, CA 94102

JACK MC GOWAN GRUENEICH RESOURCE ADVOCATES 582 MARKET STREET, SUITE 1020 SAN FRANCISCO, CA 94104

NORA SHERIFF ALCANTAR & KAHL LLP 120 MONTGOMERY STREET, SUITE 2200 SAN FRANCISCO, CA 94104 ROD AOKI ALCANTAR & KAHL, LLP 120 MONTGOMERY STREET, SUITE 2200 SAN FRANCISCO, CA 94104

JENNIFER K. POST PACIFIC GAS AND ELECTRIC COMPANY 77 BEALE STREET, ROOM 2496 SAN FRANCISCO, CA 94105

JOSEPH M. KARP WHITE & CASE LLP 3 EMBARCADERO CENTER, STE 2100 SAN FRANCISCO, CA 94111

JEFFREY GRAY DAVIS WRIGHT TREMAINE ONE EMBARCADERO CENTER, 6TH FLOOR SAN FRANCISCO, CA 94111-3834

SARA STECK MYERS 122 - 28TH AVENUE SAN FRANCISCO, CA 94121

MARJORIE OXSEN CALPINE CORPORATION 4160 DUBLIN BOULEVARD DUBLIN, CA 94568

WILLIAM H. BOOTH LAW OFFICES OF WILLIAM H. BOOTH 1500 NEWELL AVENUE, 5TH FLOOR WALNUT CREEK, CA 94596

R. THOMAS BEACH CROSSBORDER ENERGY 2560 NINTH STREET, SUITE 316 BERKELEY, CA 94710

JOHN REDDING SILICON VALLEY MANUFACTURING GROUP 31 EUCALYPTUS LANE SAN RAFAEL, CA 94901

BARRY F. MCCARTHY MCCARTHY & BERLIN, LLP 2005 HAMILTON AVENUE, SUITE 140 SAN JOSE, CA 95125 SHERYL CARTER NATURAL RESOURCES DEFENSE COUNCIL 111 SUTTER STREET, 20/F SAN FRANCISCO, CA 94104

CHRISTOPHER HILEN DAVIS, WRIGHT TERMAINE, LLP ONE EMBARCADERO CENTER, 6TH FLOOR SAN FRANCISCO, CA 94111

STEVEN F. GREENWALD DAVIS WRIGHT TREMAINE, LLP ONE EMBARCADERO CENTER, 6TH FLOOR SAN FRANCISCO, CA 94111

LISA A. COTTLE WHITE & CASE LLP 3 EMBARCADERO CENTER, SUITE 2210 SAN FRANCISCO, CA 94111-4050

AVIS CLARK CALPINE CORPORATION 4160 DUBLIN BLVD. DUBLIN, CA 94568

STEVEN S. SCHLEIMER CALPINE CORPORATION 4160 DUBLIN BLVD. DUBLIN, CA 94568-6600

RAMONA GONZALEZ EAST BAY MUNICIPAL UTILITY DISTRICT 375 ELEVENTH STREET, M/S NO. 205 OAKLAND, CA 94607

BARBARA R. BARKOVICH BARKOVICH AND YAP, INC. 31 EUCALYPTUS LANE SAN RAFAEL, CA 94901

JENNIFER HOLMES ITRON INC. 153 WOODCREST PLACE SANTA CRUZ, CA 95065

C. SUSIE BERLIN MC CARTHY & BERLIN, LLP 2005 HAMILTON AVENUE, SUITE 140 SAN JOSE, CA 95125 EDWARD V. KURZ PACIFIC GAS AND ELECTRIC COMPANY 77 BEALE STREET SAN FRANCISCO, CA 94105

JEANNE B. ARMSTRONG RITCHIE & DAY, LLP 505 SANSOME STREET, SUITE 900 SAN FRANCISCO, CA 94111

EDWARD W. O'NEILL DAVIS WRIGHT TREMAINE LLP ONE EMBARCADERO CENTER, SUITE 600 SAN FRANCISCO, CA 94111-3834

JOHN W. BOGY PACIFIC GAS & ELECTRIC PO BOX 7442 SAN FRANCISCO, CA 94120

LINDA Y. SHERIF CALPINE CORP. 4160 DUBLIN BOULEVARD DUBLIN, CA 94568

JOE DESMOND INFOTILITY, INC. 4847 HOPYARD RD. STE. 4311 PLEASANTON, CA 94588

REED V. SCHMIDT BARTLE WELLS ASSOCIATES 1889 ALCATRAZ AVENUE BERKELEY, CA 94703-2714

JOHN R. REDDING 31 EUCALYPTUS LANE SAN RAFAEL, CA 94901

JUSTIN D. BRADLEY SILICON VALLEY MANUFACTURING GROUP 224 AIRPORT PARKWAY, SUITE 620 SAN JOSE, CA 95110

CHRISTOPHER J. MAYER MODESTO IRRIGATION DISTRICT PO BOX 4060 MODESTO, CA 95352-4060 SCOTT T. STEFFEN MODESTO IRRIGATION DISTRICT 1231 ELEVENTH STREET MODESTO, CA 95354

MATTHEW V. BRADY MATTHEW V. BRADY & ASSOCIATES 2339 GOLD MEADOW WAY GOLD RIVER, CA 95670

W. KENT PALMERTON CONSTELLATION POWER SOURCE 1215 K STREET, SUITE 1700 SACRAMENTO, CA 95814

RONALD LIEBERT CALIFORNIA FARM BUREAU FEDERATION 2300 RIVER PLAZA DRIVE SACRAMENTO, CA 95833

CARLO ZORZOLI ENEL NORTH AMERICA, INC. 1 TECH DRIVE, SUITE 220 ANDOVER, MA 1810

DAVID SAUL SOLEL, INC. 439 PELICAN BAY COURT HENDERSON, NV 89012

CURTIS KEBLER GOLDMAN, SACHS & CO. 2121 AVENUE OF THE STARS LOS ANGELES, CA 90067

ROGER PELOTE THE WILLIAMS COMPANIES, INC. 12736 CALIFA STREET VALLEY VILLAGE, CA 91607

FRANK J. COOLEY SOUTHERN CALIFORNIA EDISON COMPANY 2244 WALNUT GROVE AVENUE RM 345 ROSEMEAD, CA 91770

DANIEL A. KING SEMPRA ENERGY 101 ASH STREET, HQ13 SAN DIEGO, CA 92101 DAVID KATES DAVID MARK AND COMPANY 3510 UNOCAL PLACE, SUITE 200 SANTA ROSA, CA 95403-5571

ANDREW B. BROWN ELLISON, SCHNEIDER & HARRIS, LLP 2015 H STREET SACRAMENTO, CA 95814

LYNN M. HAUG ELLISON, SCHNEIDER & HARRIS, LLP 2015 H STREET SACRAMENTO, CA 95814-3109

MICHAEL ALCANTAR ALCANTAR & KAHL LLP 1300 SW FIFTH AVENUE, SUITE 1750 PORTLAND, OR 97201

GARY HINNERS RELIANT ENERGY, INC. PO BOX 148 HOUSTON, TX 77001-0148

CYNTHIA K. MITCHELL ECONOMIC CONSULTING INC. 530 COLGATE COURT RENO, NV 89503

NORMAN A. PEDERSEN HANNA AND MORTON LLP 444 SOUTH FLOWER STREET, SUITE 1500 LOS ANGELES, CA 90071

CASE ADMINISTRATION SOUTHERN CALIFORNIA EDISON COMPANY 2244 WALNUT GROVE AVENUE, ROOM 370 ROSEMEAD, CA 91770

LAURA A. LARKS SOUTHERN CALIFORNIA EDISON COMPANY 2244 WALNUT GROVE AVENUE, ROOM 345 ROSEMEAD, CA 91770

DOUGLAS MITCHELL SEMPRA ENERGY GLOBAL ENTERPRISES 101 ASH STREET, HQ-15G SAN DIEGO, CA 92101 GRANT A. ROSENBLUM CALIFORNIA INDEPENDENT SYSTEM 151 BLUE RAVINE RD. FOLSOM, CA 95630

DOUGLAS K. KERNER ELLISON, SCHNEIDER & HARRIS LLP 2015 H STREET SACRAMENTO, CA 95814

DIANA MAHMUD STATE WATER CONTRACTORS 455 CAPITOL MALL, SUITE 20 SACRAMENTO, CA 95814-4409

DONALD W. SCHOENBECK RCS, INC. 900 WASHINGTON STREET, SUITE 780 VANCOUVER, WA 98660

JOHN HILKE FEDERAL TRADE COMMISSION 125 SOUTH STATE STREET ROMM 2105 SALT LAKE CITY, UT 84138

KEVIN R. MCSPADDEN MILBANK, TWEED, HADLEY&MCCLOY LLP 601 SOUTH FIGUEROA STREET, 30TH FLOOR LOS ANGELES, CA 90017

COLIN M. LONG PACIFIC ECONOMICS GROUP 201 SOUTH LAKE AVENUE, SUITE 400 PASADENA, CA 91101

BERJ K. PARSEGHIAN SOUTHERN CALIFORNIA EDISON COMPANY 2244 WALNUT GROVE AVENUE ROSEMEAD, CA 91770

LAURA GENAO SOUTHERN CALIFORNIA EDISON COMPANY 2244 WALNUT GROVE AVENUE ROSEMEAD, CA 91770

DONALD C. LIDDELL, P.C. LAW OFFICE OF DANIEL W. DOUGLASS, A.P.C. 2928 2ND AVENUE SAN DIEGO, CA 92103 IRENE M. STILLINGS SAN DIEGO REGIONAL ENERGY OFFICE 8520 TECH WAY, SUITE 110 SAN DIEGO, CA 92123

JOSE C. CERVANTES CITY OF SAN DIEGO 9601 RIDGEHAVEN CT., SUITE 120 SAN DIEGO, CA 92123-1636

CHARLES R. TOCA UTILITY SAVINGS & REFUND, LLC 1100 QUAIL, SUITE 217 NEWPORT BEACH, CA 92660

MATTHEW FREEDMAN THE UTILITY REFORM NETWORK 711 VAN NESS AVENUE, SUITE 350 SAN FRANCISCO, CA 94102

SEAN CASEY SAN FRANCISCO PUBLIC UTILITIES COMMISSIO 1155 MARKET STREET, 4TH FLOOR SAN FRANCISCO, CA 94103

PETER BRAY PETER BRAY AND ASSOCIATES 3566 17TH STREET, SUITE 2 SAN FRANCISCO, CA 94110-1093

JAMES A. BOOTHE HOLLAND & KNIGHT LLP 50 CALIFORNIA STREET, 28TH FLOOR SAN FRANCISCO, CA 94111

LISA WEINZIMER CALIFORNIA ENERGY CIRCUIT 695 NINTH AVENUE, NO. 2 SAN FRANCISCO, CA 94118

BARRY R. FLYNN FLYNN RESOURCE CONSULTANTS, INC. 5440 EDGEVIEW DRIVE DISCOVERY BAY, CA 94514-9267

JAY BHALLA INTERGY CORPORATION 4713 FIRST STREET, SUITE 235 PLEASANTON, CA 94566 SCOTT J. ANDERS SAN DIEGO REGIONAL ENERGY OFFICE 8520 TECH WAY - SUITE 110 SAN DIEGO, CA 92123

KURT J. KAMMERER SAN DIEGO REGIONAL ENERGY OFFICE PO BOX 60738 SAN DIEGO, CA 92166-8738

MARK J. SKOWRONSKI SOLARGENIX AT INLAND ENERGY GROUP 3501 JAMBOREE ROAD, SUITE 606 NEWPORT BEACH, CA 92660

Regina DeAngelis CALIF PUBLIC UTILITIES COMMISSION 505 VAN NESS AVENUE LEGAL DIVISION ROOM 4107 SAN FRANCISCO, CA 94102-3214

DEVRA BACHRACH NATURAL RESOURCES DEFENSE COUNCIL 111 SUTTER STREET, 20TH FLOOR SAN FRANCISCO, CA 94104

CALIFORNIA ENERGY MARKETS 517-B POTRERO AVE. SAN FRANCISCO, CA 94110-1431

LINDSEY HOW-DOWNING DAVIS WRIGHT TREMAINE LLP ONE EMBARCADERO CENTER, SUITE 600 SAN FRANCISCO, CA 94111-3834

ED LUCHA PACIFIC GAS AND ELECTRIC COMPANY PO BOX 770000 MAIL CODE: B9A SAN FRANCISCO, CA 94177

MICHAEL ROCHMAN SCHOOL PROJECT UTILITY RATE REDUCTION 1430 WILLOW PASS ROAD, SUITE 240 CONCORD, CA 94520

GREGORY T. BLUE DYNEGY INC. 5976 WEST LAS POSITAS BLVD., NO. 200 PLEASANTON, CA 94588 CENTRAL FILES SAN DIEGO GAS & ELECTRIC 8330 CENTURY PARK COURT SAN DIEGO, CA 92123-1530

MARK SHIRILAU ALOHA SYSTEMS, INC. 14801 COMET STREET IRVINE, CA 92604-2464

DIANE I. FELLMAN LAW OFFICES OF DIANE I. FELLMAN 234 VAN NESS AVENUE SAN FRANCISCO, CA 94102

SEAN CASEY SAN FRANCISCO PUBLIC UTILITIES COMMISSIO 1155 MARKET STREET, 4TH FLOOR SAN FRANCISCO, CA 94103

VALERIE J. WINN PACIFIC GAS & ELECTRIC COMPANY 77 BEALE STREET, B9A SAN FRANCISCO, CA 94105

BRIAN CRAGG GOODIN, MAC BRIDE, SQUERI, RITCHIE & DAY 505 SANSOME STREET, SUITE 900 SAN FRANCISCO, CA 94111

DANIEL W. FESSLER HOLLAND & KNIGHT LLP 50 CALIFORNIA STREET, SUITE 2800 SAN FRANCISCO, CA 94111-4726

SEBASTIEN CSAPO PACIFIC GAS AND ELECTRIC COMPANY PO BOX 770000 MAIL CODE B9A SAN FRANCISCO, CA 94177

KEITH WHITE 931 CONTRA COSTA DRIVE EL CERRITO, CA 94530

WILLIAM H. CHEN CONSTELLATION NEW ENERGY, INC. 2175 N. CALIFORNIA BLVD., SUITE 300 WALNUT CREEK, CA 94596 PHILIPPE AUCLAIR MIRANT CORPORATION 1350 TREAT BLVD., SUITE 500 WALNUT CREEK, CA 94597

CATHERINE E. YAP BARKOVICH & YAP, INC. PO BOX 11031 OAKLAND, CA 94611

GREGG MORRIS GREEN POWER INSTITUTE 2039 SHATTUCK AVE., SUITE 402 BERKELEY, CA 94704

EDWARD VINE LAWRENCE BERKELEY NATIIONAL LAB BUILDING 90-4000 BERKELEY, CA 94720

PHILLIP J. MULLER SCD ENERGY SOLUTIONS 436 NOVA ALBION WAY SAN RAFAEL, CA 94903

CAROLYN M. KEHREIN ENERGY MANAGEMENT SERVICES 1505 DUNLAP COURT DIXON, CA 95620-4208

GARY DESHAZO CALIFORNIA ISO 151 BLUE RAVINE ROAD FOLSOM, CA 95630

JAMES WEIL AGLET CONSUMER ALLIANCE PO BOX 1599 FORESTHILL, CA 95631

BRUCE MCLAUGHLIN BRAUN & BLAISING P.C. 915 L STREET, SUITE 1460 SACRAMENTO, CA 95814

MELANIE GILLETTE DUKE ENERGY NORTH AMERICA 980 NINTH STREET, SUITE 1420 SACRAMENTO, CA 95814 STANLEY I. ANDERSON POWER VALUE INCORPORATED 964 MOJAVE CT WALNUT CREEK, CA 94598

MRW & ASSOCIATES, INC. 1999 HARRISON STREET, SUITE 1440 OAKLAND, CA 94612

JOHN GALLOWAY UNION OF CONCERNED SCIENTISTS 2397 SHATTUCK AVENUE, SUITE 203 BERKELEY, CA 94704

RYAN WISER BERKELEY LAB ONE CYCLOTRON ROAD MS-90-4000 BERKELEY, CA 94720

WILLIAM B. MARCUS JBS ENERGY, INC. 311 D STREET, SUITE A WEST SACRAMENTO, CA 95605

SCOTT BLAISING BRAUN & BLAISING, P.C. 8980 MOONEY ROAD ELK GROVE, CA 95624

PHILIP D. PETTINGILL CAISO 151 BLUE RAVINE ROAD FOLSOM, CA 95630

VICTORIA P. FLEMING NAVIGANT CONSULTING, INC. 3100 ZINFANDEL DRIVE, SUITE 600 RANCHO CORDOVA, CA 95670-6026

KEVIN WOODRUFF WOODRUFF EXPERT SERVICES 1100 K STREET, SUITE 204 SACRAMENTO, CA 95814

TERRY A. GERMAN LIVINGSTON & MATTESICH LAW CORPORATION 1201 K STREET, SUITE 1100 SACRAMENTO, CA 95814-3938 TED POPE COHEN VENTURES, INC./ENERGY SOLUTIONS 1738 EXCELSIOR AVENUE OAKLAND, CA 94602

DAVID MARCUS PO BOX 1287 BERKELEY, CA 94701

CRAIG TYLER TYLER & ASSOCIATES 2760 SHASTA ROAD BERKELEY, CA 94708

KAREN NOTSUND UC ENERGY INSTITUTE 2547 CHANNING WAY BERKELEY, CA 94720-5180

STEVEN KELLY INDEPENDENT ENERGY PRODUCERS ASSN 1215 K STREET, SUITE 900 SACRAMENTO, CA 95616

LEGAL & REGULATORY DEPARTMENT CALIFORNIA ISO 151 BLUE RAVINE ROAD FOLSOM, CA 95630

ROBERT SPARKS CALIFORNIA INDEPENDANT SYSTEM OPERATOR 151 BLUE RAVINE ROAD FOLSOM, CA 95630

ED CHANG FLYNN RESOURCE CONSULTANTS, INC. 2165 MOONSTONE CIRCLE EL DORADO HILLS, CA 95762

LOREN KAYE POLIS GROUP 1115 11TH STREET, SUITE 100 SACRAMENTO, CA 95814

GREG BROWNELL SACRAMENTO MUNICIPAL UTILITY DISTRICT 6201 S STREET, M.S. B306 SACRAMENTO, CA 95817-1899 CAROLYN A. BAKER 7456 DELTAWIND DRIVE SACRAMENTO, CA 95831

NATHAN TOYAMA SACRAMENTO MUNICIPAL UTILITY DISTRICT 6201 S STREET RATES DEPARTMENT, MS 44 SACRAMENTO, CA 95852-1830

LESLIE FERRON-JONES GAS TRANSMISSION NORTHWEST 1400 SW 5TH AVE., SUITE 900 PORTLAND, OR 97201

Maria E. Stevens CALIF PUBLIC UTILITIES COMMISSION 320 WEST 4TH STREET SUITE 500 EXECUTIVE DIVISION LOS ANGELES, CA 90013

Brian D. Schumacher CALIF PUBLIC UTILITIES COMMISSION 505 VAN NESS AVENUE ENGINEERING, ENVIRONMENTAL STUDIES, CUSTOMER SERVICE AREA 4-A SAN FRANCISCO, CA 94102-3214

Clayton K. Tang CALIF PUBLIC UTILITIES COMMISSION 505 VAN NESS AVENUE ELECTRIC INDUSTRY & FINANCE AREA 4-A SAN FRANCISCO, CA 94102-3214

Eli W Kollman CALIF PUBLIC UTILITIES COMMISSION 505 VAN NESS AVENUE NATURAL GAS, ENERGY EFFICIENCY AND RESOURCE ADVISORY AREA 4-A SAN FRANCISCO, CA 94102-3214

Jay Luboff CALIF PUBLIC UTILITIES COMMISSION 505 VAN NESS AVENUE NATURAL GAS, ENERGY EFFICIENCY AND RESOURCE ADVISORY AREA 4-A SAN FRANCISCO, CA 94102-3214

Karen M Shea CALIF PUBLIC UTILITIES COMMISSION 505 VAN NESS AVENUE ELECTRIC INDUSTRY & FINANCE AREA 4-A SAN FRANCISCO, CA 94102-3214

Mark S. Wetzell CALIF PUBLIC UTILITIES COMMISSION 505 VAN NESS AVENUE DIVISION OF ADMINISTRATIVE LAW JUDGES ROOM 5009 SAN FRANCISCO, CA 94102-3214 KAREN NORENE MILLS CALIFORNIA FARM BUREAU FEDERATION 2300 RIVER PLAZA DRIVE SACRAMENTO, CA 95833

GAIL HAMMER GAS TRANSMISSION NORTHWEST 1400 SW 5TH AVE., SUITE 900 PORTLAND, OR 97201

G. ALAN COMNES DYNEGY POWER CORP. 3934 SE ASH STREET PORTLAND, OR 97214

Amy Chan CALIF PUBLIC UTILITIES COMMISSION 505 VAN NESS AVENUE ELECTRIC INDUSTRY & FINANCE AREA 4-A SAN FRANCISCO, CA 94102-3214

Bruce Kaneshiro CALIF PUBLIC UTILITIES COMMISSION 505 VAN NESS AVENUE NATURAL GAS, ENERGY EFFICIENCY AND RESOURCE ADVISORY AREA 4-A SAN FRANCISCO, CA 94102-3214

Donald R Smith CALIF PUBLIC UTILITIES COMMISSION 505 VAN NESS AVENUE ELECTRICITY RESOURCES AND PRICING BRANCH ROOM 4209 SAN FRANCISCO, CA 94102-3214

Jack Fulcher CALIF PUBLIC UTILITIES COMMISSION 505 VAN NESS AVENUE ELECTRIC INDUSTRY & FINANCE AREA 4-A SAN FRANCISCO, CA 94102-3214

Jeanette Lo CALIF PUBLIC UTILITIES COMMISSION 505 VAN NESS AVENUE NATURAL GAS, ENERGY EFFICIENCY AND RESOURCE ADVISORY ROOM 4006 SAN FRANCISCO, CA 94102-3214

Kenneth Lewis CALIF PUBLIC UTILITIES COMMISSION 505 VAN NESS AVENUE ENGINEERING, ENVIRONMENTAL STUDIES, CUSTOMER SERVICE ROOM 4002 SAN FRANCISCO, CA 94102-3214

Marshal B. Enderby CALIF PUBLIC UTILITIES COMMISSION 505 VAN NESS AVENUE ENERGY COST OF SERVICE BRANCH ROOM 4205 SAN FRANCISCO, CA 94102-3214 KAREN LINDH LINDH & ASSOCIATES 7909 WALERGA ROAD, NO. 112, PMB 119 ANTELOPE, CA 95843

KEVIN CHRISTIE GAS TRANSMISSION NORTHWEST CORPORATION 1400 SW 5TH AVENUE, STE. 900 PORTLAND, OR 97201

LAURA J. SCOTT LANDS ENERGY CONSULTING INC. 2366 EASTLAKE AVENUE EAST SUITE 311 SEATTLE, WA 98102-3399

Bradford Wetstone CALIF PUBLIC UTILITIES COMMISSION 505 VAN NESS AVENUE ELECTRIC INDUSTRY & FINANCE AREA 4-A SAN FRANCISCO, CA 94102-3214

Burton Mattson CALIF PUBLIC UTILITIES COMMISSION 505 VAN NESS AVENUE DIVISION OF ADMINISTRATIVE LAW JUDGES ROOM 5104 SAN FRANCISCO, CA 94102-3214

Donna J Hines CALIF PUBLIC UTILITIES COMMISSION 505 VAN NESS AVENUE ELECTRICITY RESOURCES AND PRICING BRANCH ROOM 4102 SAN FRANCISCO, CA 94102-3214

Jan Reid CALIF PUBLIC UTILITIES COMMISSION 505 VAN NESS AVENUE ELECTRICITY RESOURCES AND PRICING BRANCH ROOM 4209 SAN FRANCISCO, CA 94102-3214

Julie A Fitch CALIF PUBLIC UTILITIES COMMISSION 505 VAN NESS AVENUE EXECUTIVE DIVISION ROOM 5203 SAN FRANCISCO, CA 94102-3214

Louis M Irwin CALIF PUBLIC UTILITIES COMMISSION 505 VAN NESS AVENUE ELECTRICITY RESOURCES AND PRICING BRANCH ROOM 4209 SAN FRANCISCO, CA 94102-3214

Maryam Ebke CALIF PUBLIC UTILITIES COMMISSION 505 VAN NESS AVENUE DIVISION OF STRATEGIC PLANNING ROOM 5119 SAN FRANCISCO, CA 94102-3214 Meg Gottstein CALIF PUBLIC UTILITIES COMMISSION 505 VAN NESS AVENUE DIVISION OF ADMINISTRATIVE LAW JUDGES ROOM 5044 SAN FRANCISCO, CA 94102-3214

Noel Obiora CALIF PUBLIC UTILITIES COMMISSION 505 VAN NESS AVENUE LEGAL DIVISION ROOM 4107 SAN FRANCISCO, CA 94102-3214

Shannon Eddy CALIF PUBLIC UTILITIES COMMISSION 505 VAN NESS AVENUE EXECUTIVE DIVISION ROOM 4102 SAN FRANCISCO, CA 94102-3214

Valerie Beck CALIF PUBLIC UTILITIES COMMISSION 505 VAN NESS AVENUE NATURAL GAS, ENERGY EFFICIENCY AND RESOURCE ADVISORY AREA 4-A SAN FRANCISCO, CA 94102-3214

CPA COUNSEL OFFICE CALIFORNIA POWER AUTHORITY 901 P STREET, SUITE 142A SACRAMENTO, CA 95814

CONNIE LENI CALIFORNIA ENERGY COMMISSION 1516 9TH STREET SACRAMENTO, CA 95814

JENNIFER TACHERA CALIFORNIA ENERGY COMMISSION 1516 - 9TH STREET SACRAMENTO, CA 95814

MICHAEL MESSENGER CALIFORNIA ENERGY COMMISSION 1516 9TH STREET SACRAMENTO, CA 95814

PEGGY BERNARDY CALIFORNIA DEPARTMENT OF WATER RESOURCES 1416 9TH ST. OFFICE OF THE CHIEF COUNSEL, ROOM 1118 SACRAMENTO, CA 95814-4409

HELEN SABET CALIFORNIA ENERGY COMMISSION 1516 9TH STREET SACRAMENTO, CA 95814-5512 Moises Chavez CALIF PUBLIC UTILITIES COMMISSION 505 VAN NESS AVENUE NATURAL GAS, ENERGY EFFICIENCY AND RESOURCE ADVISORY AREA 4-A SAN FRANCISCO, CA 94102-3214

Paul Douglas CALIF PUBLIC UTILITIES COMMISSION 505 VAN NESS AVENUE ELECTRIC INDUSTRY & FINANCE AREA 4-A SAN FRANCISCO, CA 94102-3214

Stephen St. Marie CALIF PUBLIC UTILITIES COMMISSION 505 VAN NESS AVENUE ELECTRIC INDUSTRY & FINANCE AREA SAN FRANCISCO, CA 94102-3214

Zenaida G. Tapawan-Conway CALIF PUBLIC UTILITIES COMMISSION 505 VAN NESS AVENUE NATURAL GAS, ENERGY EFFICIENCY AND RESOURCE ADVISORY AREA 4-A SAN FRANCISCO, CA 94102-3214

CALIFORNIA POWER AUTHORITY 901 P STREET, SUITE 142A CAP COUNSEL OFFICE SACRAMENTO, CA 95814

EMILIO E. VARANINI, III CALIFORNIA POWER AUTHORITY 901 P STREET, SUITE 142A SARCARMENTO, CA 95814

KAREN GRIFFIN CALIFORNIA ENERGY COMMISSION 1516 9TH STREET, MS 39 SACRAMENTO, CA 95814

TOM GLAVIANO CALIFORNIA ENERGY COMMISSION 1516 NINTH STREET, MS-14 SACRAMENTO, CA 95814

TOM FLYNN ELECTRICITY OVERSIGHT BOARD 1516 NINTH STREET C/O CALIFORNIA ENERGY COMMISSION SACRAMENTO, CA 95814-5504

ARLEN ORCHARD SACRAMENTO MUNICIPAL UTILITY DISTRICT 6201 S STREET, M.S. B406 SACRAMENTO, CA 95817-1899 Nilgun Atamturk CALIF PUBLIC UTILITIES COMMISSION 505 VAN NESS AVENUE NATURAL GAS, ENERGY EFFICIENCY AND RESOURCE ADVISORY AREA 4-A SAN FRANCISCO, CA 94102-3214

Scott Logan CALIF PUBLIC UTILITIES COMMISSION 505 VAN NESS AVENUE ELECTRICITY RESOURCES AND PRICING BRANCH ROOM 4209 SAN FRANCISCO, CA 94102-3214

Trina Horner CALIF PUBLIC UTILITIES COMMISSION 505 VAN NESS AVENUE EXECUTIVE DIVISION ROOM 5217 SAN FRANCISCO, CA 94102-3214

ANDREW ULMER SIMPSON PARTNERS LLP 900 FRONT STREET, SUITE 300 SAN FRANCISCO, CA 94111

CLARE LAUFENBERG CALIFORNIA ENERGY COMMISSION 1516 9TH ST., MS 46 SACRAMENTO, CA 95814

ERIN R. KOCH-GOODMAN CALIFORNIA ELECTRICITY OVERSIGHT BOARD 770 L STREET, SUITE 1250 SACRAMENTO, CA 95814

MICHAEL JASKE CALIFORNIA ENERGY COMMISSION 1516 9TH STREET, MS-500 SACRAMENTO, CA 95814

Wade McCartney CALIF PUBLIC UTILITIES COMMISSION 770 L STREET, SUITE 1050 NATURAL GAS, ENERGY EFFICIENCY AND RESOURCE ADVISORY SACRAMENTO, CA 95814

FERNANDO DE LEON CALIFORNIA ENERGY COMMISSION 1516 9TH STREET, MS-14 SACRAMENTO, CA 95814-5512

RON WETHERALL CALIFORNIA ENERGY COMMISSION 1516 9TH STREET MS 20 SACRAMENTO, CA 96814-5512 ROSS A. MILLER CALIFORNIA ENERGY COMMISSION 1516 9TH STREET MS 20 SACRAMENTO, CA 96814-5512